



ProCurve Network Access Controller 800

Hardware Installation Guide

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Publication Number

5998-3237
March 2012

Applicable Products

- ProCurve Network Access Controller 800 J9065A

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This product includes cryptographic software written by Eric Young (eay@cryptsoft.com). This product includes software written by Tim Hudson (tjh@cryptsoft.com)

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Safety

Before installing and operating this product, please read the “Installation Precautions:” beginning on page 2-3 and the safety statements in the “Safety and EMC Regulatory Statements” beginning on page A-1.

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Introduction

ProCurve Network Access Controller 800

The ProCurve Network Access Controller 800 (ProCurve NAC 800) provides a complete solution for managing network access at the network edge. When used with the ProCurve Manager (PCM) and ProCurve Identity Driven Manager (IDM) products, you get a single, centralized network management tool, that lets you secure your network from unauthorized access.

The ProCurve Network Access Controller is comprised of:

- A Linux-based server, with FreeRADIUS software
- ProCurve Identity Driven Manager (IDM) Agent
- ProCurve Network Access Control Endpoint Integrity software

Note

Two additional items are required to enable endpoint integrity functionality:

- A ProCurve NAC Endpoint Integrity Agent License
- A ProCurve NAC Implementation Start-up Service, from an authorized ProCurve partner or ProCurve.

This configuration allows you to deploy the appliance in any of the following methods, to meet your network security needs:

- As a complete access control solution, including a RADIUS server, with Endpoint Integrity (EI) enforcement, and IDM agent for use with the PCM and IDM applications
- As a RADIUS server and Endpoint Integrity solution, independent of PCM and IDM applications.
- As a RADIUS server with the IDM Agent, to provide user authentication and user-based access control to network resources
- As a standalone RADIUS server, using the LINUX-based freeRADIUS software pre-installed on the appliance.

The ProCurve NAC 800 appliance is fully integrated into the ProCurve Management software. Once installed on a network with PCM, the appliance will be discovered by PCM and you can access the ProCurve NAC management and configuration application via the PCM and IDM windows.

The ProCurve NAC 800 Endpoint Integrity Solution

Due to the complexity of the configuration options available with the full ProCurve NAC 800 Endpoint Integrity (EI) solution, ProCurve requires an implementation service to ensure successful deployment. Please contact your Authorized ProCurve reseller, or HP ProCurve Support for information on ordering the ProCurve NAC 800 Endpoint Integrity Implementation service. The following section provides a brief overview of the options available for deployment of the endpoint integrity solution.

When utilizing the Endpoint Integrity features of the ProCurve NAC 800, you can deploy a single ProCurve NAC 800 appliance with endpoint integrity management and enforcement capabilities. You can also install multiple ProCurve NAC 800 appliances as Enforcement servers (ESs) across a network and manage them from one central ProCurve NAC 800 appliance configured as a Management server (MS). Deploying the appliance in such “clusters” provides improved performance and redundancy of the RADIUS servers.

The ProCurve NAC Management Server (MS) specifies the enforcement method (802.1X, inline, or DHCP), how often the end-user clients are retested, the tests run on the end-user clients, and how to control the end-user clients’ access. The ProCurve NAC Enforcement Servers detect and test end-user clients on the network for compliance.

You can deploy each ProCurve NAC endpoint integrity cluster in one of the following configurations.

802.1X

When deploying ProCurve NAC in an 802.1X environment, you must install it where it can communicate with the Remote Authentication Dial-In User Service (RADIUS) server (or, use the built-in RADIUS server on the ProCurve NAC 800). The RADIUS server communicates with the 802.1X authenticator, which performs the quarantining by moving ports or MAC addresses in and out of virtual local area networks (VLANs).

Inline

When deploying ProCurve NAC inline, it monitors and enforces all client traffic. When ProCurve NAC is deployed as a single-server installation, it works as a Layer 2 bridge that requires no changes to the network configuration settings. When ProCurve NAC is installed in a multiple-server installation, you need to configure the switch that connects the ProCurve NAC Enforcement servers to use Spanning Tree Protocol (STP) if STP is not already configured.

ProCurve NAC allows clients to access the network, or blocks clients from accessing the network based on their Internet Protocol (IP) address with a built-in firewall (iptables).

DHCP

When deploying a ProCurve NAC appliance inline with a Dynamic Host Configuration Protocol (DHCP) server, all DHCP requests pass through the ProCurve NAC appliance's Layer 2 bridge. For a quarantined client, the ProCurve NAC appliance distributes a quarantined IP address for the client. ProCurve NAC assigns a DHCP IP address based on the quarantine area parameters you define during configuration.

If the ProCurve NAC appliance allows the client to have access, it allows your real DHCP server to distribute a non-quarantined IP address. You can place restrictions on network access either at the gateway for the client using Access Control Lists (ACLs), or on the client by removing the client's gateway and adding static routes for accessible networks.

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Quick Install

The ProCurve Network Access Controller 800 appliance is easy to install. It comes with an accessory kit that includes the brackets for mounting the box in a standard 19-inch telco rack or in an equipment cabinet, and with rubber feet that can be attached so the appliance can be securely located on a horizontal surface. The brackets are designed to allow it to be mounted in a variety of locations and orientations. This chapter shows how to install the appliance (also referred to here as ‘the unit’).

Quick Install Summary

Follow these steps to install the ProCurve NAC 800. The rest of this chapter provides details on these steps.

1. **Prepare the installation site (page 2-5).** Ensure the physical environment is properly prepared, including having the correct network cabling ready to connect to the unit and having an appropriate location for the unit. *Please see page 2-3 for some installation precautions.*
2. **Mount the appliance (page 2-6).** The ProCurve NAC 800 appliance can be mounted in a 19-inch telco rack, in an equipment cabinet, or on a horizontal surface.
3. **Connect power to the appliance (page 2-8).** Once the unit is mounted, plug it into the nearby main power source.
4. **Connect the network cables (page 2-9).** Using the appropriate network cables, connect the unit to the network.
5. **Connect a console to the appliance (optional—page 2-9).** You may wish to modify the ProCurve NAC 800 configuration, for example, to configure an IP address so it can be managed using a Web browser, from an SNMP network management station, or through a Telnet session. Configuration changes can easily be made by using the included console cable to connect a PC to the unit’s console port.
6. **Perform the initial appliance configuration (page 2-11).** Use the front panel LCD to set the appliance’s IP address and server type.

At this point, the unit is fully installed. See the rest of this chapter if you need more detailed information on any of these installation steps.

Included Parts

The ProCurve NAC 800 appliance (J9065A) has the following components shipped with it:

- Console cable, DB-9 to RJ45 (5188-6699)
- Accessory kit for ProCurve NAC 800 (5069-5705), which includes:
 - two mounting brackets
 - eight 8mm Machine Screws screws to attach the mounting brackets to the unit
 - four 5/8-inch number 12-24 screws to attach the unit to a rack
 - four rubber feet for horizontal mounting on flat surface
- *ProCurve Network Access Controller 800 Hardware Installation Guide*, this manual (5998-3237).
- Customer Support/Warranty booklet (5990-8862)
- Power cord, one of the following:

Australia/New Zealand	8121-0838
China	8121-0910
Continental Europe	8120-8861
Denmark	8120-8930
India	8121-0780
Israel	8121-1035
Japan	8120-4753
Switzerland	8121-0908
South Africa	8120-8929
Taiwan	8121-0974
Thailand	8121-0673
United Kingdom/Hong Kong/	8121-0909
United States/Canada/Mexico	8121-0921

Japan Power Cord Warning

製品には、同梱された電源コードをお使い下さい。
同梱された電源コードは、他の製品では使用出来ません。

For additional configuration information and user instructions, PDF versions of the documentation for the ProCurve Network Access Controller 800 appliance, including the Users' Guide, and this Installation Guide are available on the Web at:

<http://www.hp.com/rnd/support/manuals>

Installation Precautions:

Follow these precautions when installing the ProCurve NAC 800 appliance.

Warning

- The rack or cabinet should be adequately secured to prevent it from becoming unstable and/or falling over.

Units installed in a rack or cabinet should be mounted as low as possible, with the heaviest devices at the bottom and progressively lighter devices installed above.
- For safe operation, only install the unit horizontally, with the bottom side down.

Cautions

- Ensure the power source circuits are properly grounded, then use the power cord supplied with the unit to connect it to the power source.
 - If your installation requires a different power cord than the one supplied with the unit, be sure to use a power cord displaying the mark of the safety agency that defines the regulations for power cords in your country. The mark is your assurance that the power cord can be used safely with the unit.
 - When installing the unit, the AC outlet should be near the unit and should be easily accessible in case the unit must be powered off.
 - Ensure the unit does not overload the power circuits, wiring, and over-current protection. To determine the possibility of overloading the supply circuits, add together the ampere ratings of all devices installed on the same circuit as the ProCurve NAC unit and compare the total with the rating limit for the circuit. The maximum ampere ratings are usually printed on the devices near the AC power connectors.
 - Do not install the unit in an environment where the operating ambient temperature might exceed 40°C (104°F).
 - Ensure the air flow around the sides and back of the unit is not restricted.
-

Hardware Specifications

System specifications for ProCurve Network Access Controller 800 (J9065A).

Physical

Width:	44.3 cm (17.42 in)
Depth:	39 cm (15.4 in)
Height:	4.2 cm (1.64 in)
Weight:	6.1 kg (13.45 lbs)

Electrical

The appliance automatically adjusts to any voltage between 100-127 and 200-240 volts and either 50 or 60 Hz.

AC voltage:	100-127/200-240 volts
Maximum current:	2 A / 1A
Frequency range:	50/60 Hz

Environmental

	Operating	Non-Operating
Temperature:	5°C to 40°C (41°F to 122°F)	-40°C to 65°C (-40°F to 149°F)
Relative humidity: (non-condensing)	15% to 80% at 40°C (104°F)	20% to 90% at 65°C (149°F)
Maximum altitude:	2 km (6,500 ft)	4.6 km (15,000 ft)

Acoustic

Geraeuschemission LwA=52 dB am fiktiven Arbeitsplatz nach DIN 45635 T.19
Noise Emission LwA=52 dB at virtual work space according to DIN 45635 T.19

Connectors

The 10/100/1000 Mbps RJ-45 twisted-pair ports are compatible with the following standards:

- IEEE 802.3ab 1000Base-T
- IEEE 802.3u 100Base-TX
- IEEE 802.3 10Base-T

Safety

Complies with:

- EN60950-1 / IEC 60950-1
- CSA 22.2 No. 60950-1
- UL 60950-1

Installing the Appliance

1. Prepare the Installation Site

- **Cabling Infrastructure** - Ensure the cabling infrastructure meets the necessary network specifications. See the following table for cable types and lengths, and see appendix B, “Cables and Connectors” for more information:

Table 1. Summary of Cable Types to Use With the ProCurve NAC 800

Port Type	Cable Type	Length Limits
Twisted-Pair Cables		
10/100/1000Base-T	For either 10, 100 Mbps, or 1000 Mbps operation: Category 5 or better, 100-ohm unshielded twisted-pair (UTP) or shielded twisted-pair (STP) balanced cable. For 1000 Mbps (gigabit) operation, Category 5E cabling or better is recommended.	100 meters Note: The ProCurve NAC 800 appliance is compatible with the IEEE 802.3ab standard including the “Auto MDI/MDI-X” feature, which allows use of either straight-through or crossover twisted-pair cables for connecting to any network devices including end nodes, such as computers, or to other switches, hubs, and routers. Note: For 1000 Mbps operation, all four wire pairs are used for data transmission.

- **Installation Location** - Before installing the unit, plan its location and orientation relative to other devices and equipment. Please refer to Chapter 1, “Introduction” for details on the deployment method and configuration options:
 - In the front of the unit, leave at least 7.6 cm (3 inches) of space for the twisted-pair cabling.
 - In the back of the unit, leave at least 3.8 cm (1 1/2 inches) of space for the power cord.
 - On the sides of the unit, leave at least 7.6 cm (3 inches) for cooling, except if the unit is installed in an open EIA/TIA rack.

Quick Install

2. Mount the Unit

After determining the configuration and preparing the site, you are ready to mount the ProCurve NAC 800 appliance in a stable location. The ProCurve NAC 800 unit can be mounted in a rack or cabinet

Warning

For safe operation, please read the mounting precautions on [page 2-3](#), before mounting a switch.

Rack Mounting the ProCurve NAC 800

The ProCurve NAC 800 appliance is designed to be mounted in any EIA-standard 19-inch telco rack or communication equipment cabinet.

Equipment Cabinet Note

The 12-24 screws supplied with the unit are the correct threading for standard EIA/TIA open 19-inch racks. If you are installing the unit in an equipment cabinet such as a server cabinet, use the clips and screws that came with the cabinet in place of the 12-24 screws that are supplied with the unit.

Complete step 1, and plan which four holes you will be using in the cabinet and install all four clips. Then proceed to step 2.

1. Use a #1 Phillips (cross-head) screwdriver and attach the mounting brackets to the ProCurve NAC unit with the included 8-mm M4 screws.



Figure 3. ProCurve NAC 800 with mounting brackets

Note

The mounting brackets have multiple mounting holes and can be rotated, allowing for a variety of mounting options.

2. Hold the unit with attached brackets up to the rack and move it vertically until rack holes line up with the bracket holes, then insert and tighten the four number 12-24 screws holding the brackets to the rack.



Figure 4. ProCurve NAC 800 rack mount example

Horizontal Surface Mounting

Place the ProCurve NAC 800 on a table or other horizontal surface. The unit comes with rubber feet in the accessory kit that can be used to help keep it from sliding on the surface.

Attach the rubber feet to the four corners on the bottom of the box within the embossed angled lines. Use a sturdy surface in an uncluttered area. You may want to secure the networking cables and switch power cord to the table leg or other part of the surface structure to help prevent tripping over the cords.

Caution

Make sure the air flow is not restricted around the sides and back of the unit.

3. Connect the Unit to a Power Source

1. Plug the included power cord into the ProCurve NAC 800's power connector and into a nearby AC power source.



Figure 5. ProCurve NAC 800, rear view with power plug

4. Connect the Network Cables

Connect the network cables, described under “Cabling Infrastructure” ([page 5](#)), from the network devices or your patch panels to the fixed RJ-45 ports on the front of the ProCurve NAC 800.

For deployment as a standalone RADIUS sever, or for the RADIUS server with IDM agent, insert the network cable in the LAN port (LAN Port 1) on the front of the box.

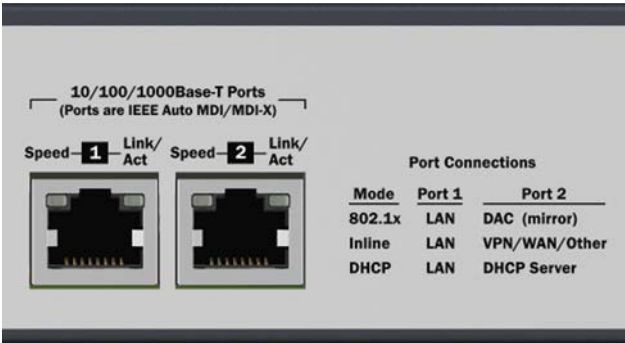


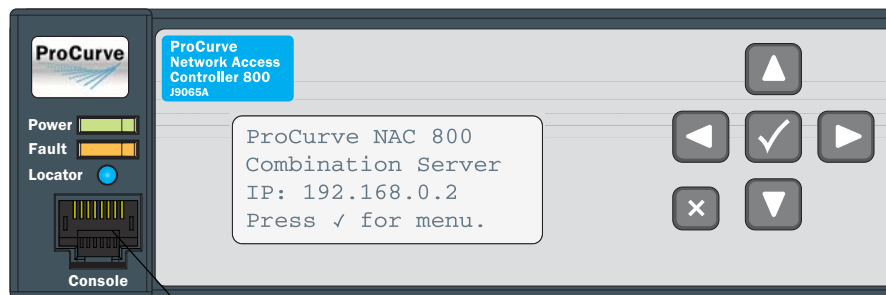
Figure 6. ProCurve NAC 800 Front Panel Port Connections

For deployment of the endpoint integrity features, connections will vary based on the deployment method you use. The network connection options are referenced on the front panel of the appliance, as shown in the figure above.

5. (Optional) Connect a Console to the Appliance

- The ProCurve NAC 800 has an easy to use console interface for performing appliance management tasks including the following:
- Modify the appliance’s configuration to improve network security
 - Read the event log and access diagnostic tools to help in troubleshooting
 - Download new software to the appliance.
 - Add passwords to control access to the ProCurve NAC 800 from the console, Web interface, and network management stations

The console can be accessed by connecting the serial cable provided to a PC or VT-100 terminal, to be used as a console.



Connect RJ-45 cable to Console port.

Terminal Configuration

To connect a console to the unit, configure the PC terminal emulator as a DEC VT-100 (ANSI) terminal or use a VT-100 terminal, and configure either one to operate with these settings:

- Use a baud rate of 9600
- 8 data bits, 1 stop bit, no parity, and no flow control
- For the Windows Terminal program, also disable (uncheck) the “Use Function, Arrow, and Ctrl Keys for Windows” option
- For the Hilgraeve HyperTerminal program, select the “Terminal keys” option for the “Function, arrow, and ctrl keys act as” parameter.

6. Initial Appliance Configuration

When you first power up the ProCurve NAC 800 appliance, you can use the LCD menu and buttons on the front panel to set the IP address for the unit. These same functions are available via the Console menu.

1. To access the Console Menu, connect a console and login to the ProCurve NAC using the default administrator account:

Login = admin

Password = procurve

The Application Main Menu will display.

2. Select the Config menu, then the IP Address-Port 1 option.
3. Enter the following information:
 - IP address you want to assign to the ProCurve NAC.
 - Subnet Mask
 - Default Gateway
4. When you have completed the configuration, you can exit the console menu.

You can also use the console menu to access basic diagnostics (Ping Test), to change the appliance (administrator) password, and to reset the unit.

The remaining configuration tasks for deploying the RADIUS server and connecting the IDM Agent with the PCM/IDM server, are described in the *ProCurve NAC 800 Configuration Guide*, available on the Web at www.procurve.com.

Configuring via the Front LCD Display

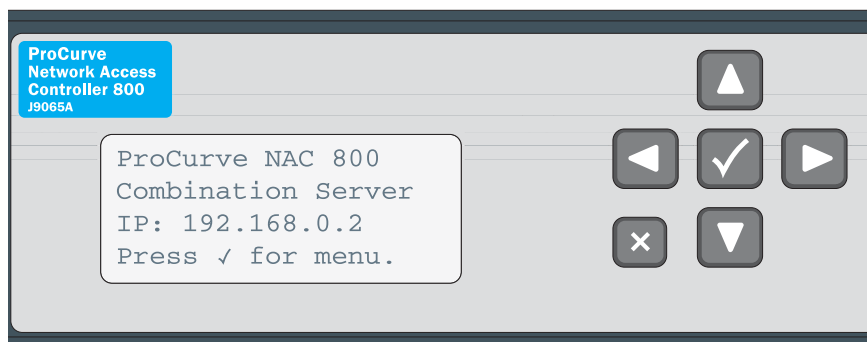


Figure 7. Front Panel LCD and Buttons

- To select the menu, push the center button (✓).
- To scroll up or down through a menu list, push the top (▲) or bottom (▼) buttons, respectively.
- An arrow (->) indicates the selected item in a menu or options list.

To set the server IP Address:

1. At the Configuration menu, press the down button ▼ to select the IP Address option, then press the select ✓ button.

```
-Server Type
->IP Address-Port 1
-Ports Speed/Duplex
  ◆ scroll  ✓ select
```

The IP Address menu displays, with the default IP address.

```
IP Address:
192.168.000.002
◀▶ select  ◆ change
  ✓ accept  ✕ cancel
```

The underscore indicates the currently selected number within the IP address entry.

To change a number in the IP address entry:

- a. Press the up (▲) or down (▼) buttons, respectively, to increase or decrease the number.

- b. To move to the next number in the entry, press the ► button to move right, or the ◀ button to move left. Press once for each number space you want to move. The underscore (_) indicates the selected number.
- c. When the IP address is set correctly, press the ✓ button to apply the new IP address, and continue to the Subnet Mask configuration.

```
Subnet Mask:
255.255.255.000
◀▶ select  ◆ change
✓ accept   x cancel
```

2. To change the Subnet Mask entry, use the same procedure described in steps a. and b. above.

When the Subnet Mask is set correctly, press the ✓ button to apply the new entry, and continue to the Default Gateway configuration.

```
Gateway:
010.010.123.001
◀▶ select  ◆ change
✓ accept   x cancel
```

3. To change the Gateway entry, use the same procedure described in steps a. and b. above, then press the ✓ button to apply the new entry, and continue.
4. The IP address is verified and a confirmation message displays if it is configured correctly.

```
IP Address OK.
Setting new IP...
```

After five seconds, the Configuration menu displays again.

If any part of the address is misconfigured, an error message displays.

```
IP Address
misconfigured.
```

After five seconds the display returns to the point where the first misconfiguration was detected.

Repeat the process for setting the IP address, Subnet Mask, and Gateway until the address is verified.

To set the server personality to Management or Enforcement Server for Endpoint Integrity:

1. Press ✓ to display the LCD menu.

When the menu displays, the Configuration option is selected.

```
->Configuration
-Ping Test
-Reboot/Shutdown
◆ scroll  ✓ select
```

2. Press ✓ to continue.

The Configuration menu appears with the Server Type option selected.

```
->Server Type
-IP Address-Port 1
-Ports Speed/Duplex
◆ scroll  ✓ select
```

3. Press ✓ to continue.

The Server Type menu appears with the Combination Server option selected. The current server type is indicated by an asterisk.

```
->Combination Server*
-Management Server
-Enforcement Server
◆ scroll  ✓ select
```

4. Press the down button ▼ to select the Management Server or Enforcement Server options.
5. Press the center ✓ button to select the Server option

The LCD displays the server type selection, for example if you selected Management Server:

```
Server Type:
Management Server
✓ apply changes
x cancel changes
```

6. Press the center ✓ button to apply changes.

```
Setting Server Type
...
```

When the server type has been set the display returns to the top of the Configuration menu.

```
->Configuration
-Ping Test
-Reboot/Shutdown
◆ scroll  ✓ select
```

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Safety and EMC Regulatory Statements

Safety Information



WARNING

Documentation reference symbol. If the product is marked with this symbol, refer to the product documentation to get more information about the product.

A **WARNING** in the manual denotes a hazard that can cause injury or death.

CAUTION

A **CAUTION** in the manual denotes a hazard that can damage equipment.

Do not proceed beyond a **WARNING** or **CAUTION** notice until you have understood the hazardous conditions and have taken appropriate steps.

Grounding

These are safety class I products and have protective earthing terminals. There must be an uninterruptible safety earth ground from the main power source to the product's input wiring terminals, power cord, or supplied power cord set. Whenever it is likely that the protection has been impaired, disconnect the power cord until the ground has been restored.

For LAN cable grounding:

- If your LAN covers an area served by more than one power distribution system, be sure their safety grounds are securely interconnected.
- LAN cables may occasionally be subject to hazardous transient voltages (such as lightning or disturbances in the electrical utilities power grid). Handle exposed metal components of the network with caution.

Servicing

There are no user-serviceable parts inside these products. Any servicing, adjustment, maintenance, or repair must be performed only by service-trained personnel.

These products do not have a power switch; they are powered on when the power cord is plugged in.

Informations concernant la sécurité



Symbole de référence à la documentation. Si le produit est marqué de ce symbole, reportez-vous à la documentation du produit afin d'obtenir des informations plus détaillées.

WARNING

Dans la documentation, un WARNING indique un danger susceptible d'entraîner des dommages corporels ou la mort.

CAUTION

Un texte de mise en garde intitulé CAUTION indique un danger susceptible de causer des dommages à l'équipement.

Ne continuez pas au-delà d'une rubrique WARNING ou CAUTION avant d'avoir bien compris les conditions présentant un danger et pris les mesures appropriées.

Cet appareil est un produit de classe I et possède une borne de mise à la terre. La source d'alimentation principale doit être munie d'une prise de terre de sécurité installée aux bornes du câblage d'entrée, sur le cordon d'alimentation ou le cordon de raccordement fourni avec le produit. Lorsque cette protection semble avoir été endommagée, débrancher le cordon d'alimentation jusqu'à ce que la mise à la terre ait été réparée.

Mise à la terre du câble de réseau local:

- si votre réseau local s'étend sur une zone desservie par plus d'un système de distribution de puissance, assurez-vous que les prises de terre de sécurité soient convenablement interconnectées.
- Les câbles de réseaux locaux peuvent occasionnellement être soumis à des surtensions transitoires dangereuses (telles que la foudre ou des perturbations dans le réseau d'alimentation public). Manipulez les composants métalliques du réseau avec précautions.

Aucune pièce contenue à l'intérieur de ce produit ne peut être réparée par l'utilisateur. Tout dépannage, réglage, entretien ou réparation devra être confié exclusivement à un personnel qualifié.

Cet appareil ne comporte pas de commutateur principal ; la mise sous tension est effectuée par branchement du cordon d'alimentation.

Hinweise zur Sicherheit



Symbol für Dokumentationsverweis. Wenn das Produkt mit diesem Symbol markiert ist, schlagen Sie bitte in der Produktdokumentation nach, um mehr Informationen über das Produkt zu erhalten.

WARNING

Eine WARNING in der Dokumentation symbolisiert eine Gefahr, die Verletzungen oder sogar Todesfälle verursachen kann.

CAUTION

CAUTION in der Dokumentation symbolisiert eine Gefahr, die das Gerät beschädigen kann.

Fahren Sie nach dem Hinweis WARNING oder CAUTION erst fort, nachdem Sie den Gefahrenzustand verstanden und die entsprechenden Maßnahmen ergriffen haben.

Dies ist ein Gerät der Sicherheitsklasse I und verfügt über einen schützenden Erdungsterminal. Der Betrieb des Geräts erfordert eine ununterbrochene Sicherheitserdung von der Hauptstromquelle zu den Geräteingabeterminals, den Netzkabeln oder dem mit Strom belieferten Netzkabelsatz voraus. Sobald Grund zur Annahme besteht, daß der Schutz beeinträchtigt worden ist, das Netzkabel aus der Wandsteckdose herausziehen, bis die Erdung wiederhergestellt ist.

Für LAN-Kabelerdung:

- Wenn Ihr LAN ein Gebiet umfaßt, das von mehr als einem Stromverteilungssystem beliefert wird, müssen Sie sich vergewissern, daß die Sicherheitserdungen fest untereinander verbunden sind.
- LAN-Kabel können gelegentlich gefährlichen Übergangsspannungen ausgesetzt werden (beispielsweise durch Blitz oder Störungen in dem Starkstromnetz des Elektrizitätswerks). Bei der Handhabung exponierter Metallbestandteile des Netzwerkes Vorsicht walten lassen.

Dieses Gerät enthält innen keine durch den Benutzer zu wartenden Teile. Wartungs-, Anpassungs-, Instandhaltungs- oder Reparaturarbeiten dürfen nur von geschultem Bedienungspersonal durchgeführt werden.

Dieses Gerät hat keinen Netzschalter; es wird beim Anschließen des Netzkabels eingeschaltet.

Considerazioni sulla sicurezza



WARNING

Simbolo di riferimento alla documentazione. Se il prodotto è contrassegnato da questo simbolo, fare riferimento alla documentazione sul prodotto per ulteriori informazioni su di esso.

La dicitura **WARNING** denota un pericolo che può causare lesioni o morte.

CAUTION

La dicitura **CAUTION** denota un pericolo che può danneggiare le attrezzature.

Non procedere oltre un avviso di **WARNING** o di **CAUTION** prima di aver compreso le condizioni di rischio e aver provveduto alle misure del caso.

Questo prodotto è omologato nella classe di sicurezza I ed ha un terminale protettivo di collegamento a terra. Dev'essere installato un collegamento a terra di sicurezza, non interrompibile che vada dalla fonte d'alimentazione principale ai terminali d'entrata, al cavo d'alimentazione oppure al set cavo d'alimentazione fornito con il prodotto. Ogniqualvolta vi sia probabilità di danneggiamento della protezione, disinserite il cavo d'alimentazione fino a quando il collegamento a terra non sia stato ripristinato.

Per la messa a terra dei cavi LAN:

- se la vostra LAN copre un'area servita da più di un sistema di distribuzione elettrica, accertatevi che i collegamenti a terra di sicurezza siano ben collegati fra loro;
- i cavi LAN possono occasionalmente andare soggetti a pericolose tensioni transitorie (ad esempio, provocate da lampi o disturbi nella griglia d'alimentazione della società elettrica); siate cauti nel toccare parti esposte in metallo della rete.

Nessun componente di questo prodotto può essere riparato dall'utente. Qualsiasi lavoro di riparazione, messa a punto, manutenzione o assistenza va effettuato esclusivamente da personale specializzato.

Questo apparato non possiede un commutatore principale; si mette scotto tensione all'inserirsi il cavo d'alimentazione.

Consideraciones sobre seguridad



WARNING

Símbolo de referencia a la documentación. Si el producto va marcado con este símbolo, consultar la documentación del producto a fin de obtener mayor información sobre el producto.

CAUTION

Una WARNING en la documentación señala un riesgo que podría resultar en lesiones o la muerte.

Una CAUTION en la documentación señala un riesgo que podría resultar en averías al equipo.

No proseguir después de un símbolo de WARNING o CAUTION hasta no haber entendido las condiciones peligrosas y haber tomado las medidas apropiadas.

Este aparato se enmarca dentro de la clase I de seguridad y se encuentra protegido por una borna de puesta a tierra. Es preciso que exista una puesta a tierra continua desde la toma de alimentación eléctrica hasta las bornas de los cables de entrada del aparato, el cable de alimentación o el juego de cable de alimentación suministrado. Si existe la probabilidad de que la protección a tierra haya sufrido desperfectos, desenchufar el cable de alimentación hasta haberse subsanado el problema.

Puesta a tierra del cable de la red local (LAN):

- Si la LAN abarca un área cuyo suministro eléctrico proviene de más de una red de distribución de electricidad, cerciorarse de que las puestas a tierra estén conectadas entre sí de modo seguro.
- Es posible que los cables de la LAN se vean sometidos de vez en cuando a voltajes momentáneos que entrañen peligro (rayos o alteraciones en la red de energía eléctrica). Manejar con precaución los componentes de metal de la LAN que estén al descubierto.

Este aparato no contiene pieza alguna susceptible de reparación por parte del usuario. Todas las reparaciones, ajustes o servicio de mantenimiento debe realizarlos solamente el técnico.

Este producto no tiene interruptor de potencia; se activa cuando se enchufa el cable de alimentación.

Safety Information (Japan)

安全性の考慮

安全記号



マニュアル参照記号。製品にこの記号がついている場合はマニュアルを参照し、注意事項等をご確認ください。

WARNING マニュアル中の「WARNING」は人身事故の原因となる危険を示します。

CAUTION マニュアル中の「CAUTION」は装置破損の原因となる危険を示します。

「WARNING」や「CAUTION」の項は飛ばさないで必ずお読みください。危険性に関する記載事項をよく読み、正しい手順に従った上で次の事項に進んでください。

これは安全性クラス I の製品で保護用接地端子を備えています。主電源から製品の入力配線端子、電源コード、または添付の電源コード・セットまでの間、切れ目のない安全接地が存在することが必要です。もしこの保護回路が損なわれたことが推測されるときは、接地が修復されるまで電源コードを外しておいてください。

LAN ケーブルの接地に関して:

- もし貴社の LAN が複数の配電システムにより電力を受けている領域をカバーしている場合には、それらのシステムの安全接地が確実に相互に結合されていることを確認してください。
- LAN ケーブルは時として危険な過度電圧（例えば雷や、配電設備の電力網での障害）にさらされることがあります。露出した金属部分の取扱いには十分な注意をはらってください。

本製品の内部にはユーザーが修理できる部品はありません。サービス、調整、保守および修理はサービス訓練を受けた専門家におまかせください。

本製品には電源スイッチがありません。電源コードを接続したとき電源入となります。

Safety Information (China)

HP 网络产品使用安全手册

使用须知

欢迎使用惠普网络产品，为了您及仪器的安全，请您务必注意如下事项：

1. 仪器要和地线相接，要使用有正确接地插头的电源线，使用中国国家规定的220V电源。
2. 避免高温和尘土多的地方，否则易引起仪器内部部件的损坏。
3. 避免接近高温，避免接近直接热源，如直射太阳光、暖气等其它发热体。
4. 不要有异物或液体落入机内，以免部件短路。
5. 不要将磁体放置于仪器附近。

警告

为防止火灾或触电事故，请不要将该机放置于淋雨或潮湿处。

安装

安装辅助管理模块，请参看安装指南。

保修及技术支持

如果您按照以上步骤操作时遇到了困难，或想了解其它产品性能，请按以下方式与我们联系。

如是硬件故障：

1. 与售出单位或当地维修机构联系。
2. 中国惠普有限公司维修中心地址：
北京市海淀区知春路49号希格玛大厦
联系电话：010-62623888 转 6101
邮政编码：100080

如是软件问题：

1. 惠普用户响应中心热线电话：010-65645959
2. 传真自动回复系统：010-65645735

EMC Regulatory Statements

U.S.A.

FCC Class A

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause interference to radio communications. Operation of this equipment in a residential area may cause interference in which case the user will be required to correct the interference at his own expense.

Canada

This product complies with Class A Canadian EMC requirements.

Australia/New Zealand



This product complies with Australia/New Zealand EMC Class A requirements.

Japan

VCCI Class A

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

Korea

사용자 안내문 : A 급기기

이기는 업무용으로 전자파 적합등록을 받은 기기 이오니, 판매자 또는 사용자는 이점을 주의하시기 바라며, 만약 잘못 구입하셨을 때에는 구입한 곳에서 비업무용으로 교환하시기 바랍니다.

Taiwan

警告使用者：這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

Recycle Statements

Waste Electrical and Electronic Equipment (WEEE) Statements



Disposal of Waste Equipment by Users in Private Household in the European Union

This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.



Likvidace zařízení soukromými domácími uživateli v Evropské unii

Tento symbol na produktu nebo balení označuje výrobek, který nesmí být vyhozen spolu s ostatním domácím odpadem. Povinností uživatele je předat takto označený odpad na předem určené sběrné místo pro recyklaci elektrických a elektronických zařízení. Okamžité třídění a recyklace odpadu pomůže uchovat přírodní prostředí a zajistí takový způsob recyklace, který ochrání zdraví a životní prostředí člověka. Další informace o možnostech odevzdání odpadu k recyklaci získáte na příslušném obecním nebo městském úřadě, od firmy zabývající se sběrem a svozem odpadu nebo v obchodě, kde jste produkt zakoupili.



Bortskaffelse af affald fra husstande i den Europæiske Union

Hvis produktet eller dets emballage er forsynet med dette symbol, angiver det, at produktet ikke må bortskaffes med andet almindeligt husholdningsaffald. I stedet er det dit ansvar at bortskaffe kasseret udstyr ved at aflevere det på den kommunale genbrugsstation, der forestår genvinding af kasseret elektrisk og elektronisk udstyr. Den centrale modtagelse og genvinding af kasseret udstyr i forbindelse med bortskaffelsen bidrager til bevarelse af naturlige ressourcer og sikrer, at udstyret genvindes på en måde, der beskytter både mennesker og miljø. Yderligere oplysninger om, hvor du kan aflevere kasseret udstyr til genvinding, kan du få hos kommunen, den lokale genbrugsstation eller i den butik, hvor du købte produktet.



Seadmete jäätmete kõrvaldamine eramajapidamistes Euroopa Liidus

See tootel või selle pakendil olev sümbol näitab, et kõnealust toodet ei tohi koos teiste majapidamisjäätmetega kõrvaldada. Teie kohus on oma seadmete jäätmed kõrvaldada, viies need elektri- ja elektroonikaseadmete jäätmete ringlussevõtmiseks selleks ettenähtud kogumispunkti. Seadmete jäätmete eraldi kogumine ja ringlussevõtmise kõrvaldamise ajal aitab kaitsta loodusvarasid ning tagada, et ringlussevõtmise toimub viisil, mis kaitseb inimeste tervist ning keskkonda. Lisateabe saamiseks selle kohta, kuhu oma seadmete jäätmed ringlussevõtmiseks viia, võtke palun ühendust oma kohaliku linnakantsleiga, majapidamisjäätmete kõrvaldamise teenistuse või kauplusega, kust Te toote ostsite.



Laitteiden hävittäminen kotitalouksissa Euroopan unionin alueella

Jos tuotteessa tai sen pakkauksessa on tämä merkki, tuotetta ei saa hävittää kotitalousjätteiden mukana. Tällöin hävitettävä laite on toimitettava sähkölaitteiden ja elektronisten laitteiden kierrätyspisteeseen. Hävitettävien laitteiden erillinen käsittely ja kierrätys auttavat säästämään luonnonvaroja ja varmistamaan, että laite kierrätetään tavalla, joka estää terveyshaitat ja suojelee luontoa. Lisätietoja paikoista, joihin hävitettävät laitteet voi toimittaa kierrätettäväksi, saa ottamalla yhteyttä jätehuoltoon tai liikkeeseen, josta tuote on ostettu.



Élimination des appareils mis au rebut par les ménages dans l'Union européenne

Le symbole apposé sur ce produit ou sur son emballage indique que ce produit ne doit pas être jeté avec les déchets ménagers ordinaires. Il est de votre responsabilité de mettre au rebut vos appareils en les déposant dans les centres de collecte publique désignés pour le recyclage des équipements électriques et électroniques. La collecte et le recyclage de vos appareils mis au rebut indépendamment du reste des déchets contribue à la préservation des ressources naturelles et garantit que ces appareils seront recyclés dans le respect de la santé humaine et de l'environnement. Pour obtenir plus d'informations sur les centres de collecte et de recyclage des appareils mis au rebut, veuillez contacter les autorités locales de votre région, les services de collecte des ordures ménagères ou le magasin dans lequel vous avez acheté ce produit.



Entsorgung von Altgeräten aus privaten Haushalten in der EU

Das Symbol auf dem Produkt oder seiner Verpackung weist darauf hin, dass das Produkt nicht über den normalen Hausmüll entsorgt werden darf. Benutzer sind verpflichtet, die Altgeräte an einer Rücknahmestelle für Elektro- und Elektronik-Altgeräte abzugeben. Die getrennte Sammlung und ordnungsgemäße Entsorgung Ihrer Altgeräte trägt zur Erhaltung der natürlichen Ressourcen bei und garantiert eine Wiederverwertung, die die Gesundheit des Menschen und die Umwelt schützt. Informationen dazu, wo Sie Rücknahmestellen für Ihre Altgeräte finden, erhalten Sie bei Ihrer Stadtverwaltung, den örtlichen Müllentsorgungsbetrieben oder im Geschäft, in dem Sie das Gerät erworben haben.



Απόρριψη άχρηστου εξοπλισμού από χρήστες σε ιδιωτικά νοικοκυριά στην Ευρωπαϊκή Ένωση

Το σύμβολο αυτό στο προϊόν ή τη συσκευασία του υποδεικνύει ότι το συγκεκριμένο προϊόν δεν πρέπει να διατίθεται μαζί με τα άλλα οικιακά σας απορρίμματα. Αντίθετα, είναι δική σας ευθύνη να απορρίψετε τον άχρηστο εξοπλισμό σας παραδίδοντάς τον σε καθορισμένο σημείο συλλογής για την ανακύκλωση άχρηστου ηλεκτρικού και ηλεκτρονικού εξοπλισμού. Η ξεχωριστή συλλογή και ανακύκλωση του άχρηστου εξοπλισμού σας κατά την απόρριψη θα συμβάλει στη διατήρηση των φυσικών πόρων και θα διασφαλίσει ότι η ανακύκλωση γίνεται με τρόπο που προστατεύει την ανθρώπινη υγεία και το περιβάλλον. Για περισσότερες πληροφορίες σχετικά με το πού μπορείτε να παραδώσετε τον άχρηστο εξοπλισμό σας για ανακύκλωση, επικοινωνήστε με το αρμόδιο τοπικό γραφείο, την τοπική υπηρεσία διάθεσης οικιακών απορριμμάτων ή το κατάστημα όπου αγοράσατε το προϊόν.



Készülékek magánháztartásban történő selejtezése az Európai Unió területén

A készüléken, illetve a készülék csomagolásán látható azonos szimbólum annak jelzésére szolgál, hogy a készülék a selejtezés során az egyéb háztartási hulladéktól eltérő módon kezelendő. A vásárló a hulladékká vált készüléket köteles a kijelölt gyűjtőhelyre szállítani az elektromos és elektronikai készülékek újrahasznosítása céljából. A hulladékká vált készülékek selejtezési begyűjtése és újrahasznosítása hozzájárul a természeti erőforrások megőrzéséhez, valamint biztosítja a selejtezett termékek környezetre és emberi egészségre nézve biztonságos feldolgozását. A begyűjtés pontos helyéről bővebb tájékoztatást a lakhelye szerint illetékes önkormányzattól, az illetékes személtakarító vállalatától, illetve a terméket eláruló helyen kaphat.



Smaltimento delle apparecchiature da parte di privati nel territorio dell'Unione Europea

Questo simbolo presente sul prodotto o sulla sua confezione indica che il prodotto non può essere smaltito insieme ai rifiuti domestici. È responsabilità dell'utente smaltire le apparecchiature consegnandole presso un punto di raccolta designato al riciclo e allo smaltimento di apparecchiature elettriche ed elettroniche. La raccolta differenziata e il corretto riciclo delle apparecchiature da smaltire permette di proteggere la salute degli individui e l'ecosistema. Per ulteriori informazioni relative ai punti di raccolta delle apparecchiature, contattare l'ente locale per lo smaltimento dei rifiuti, oppure il negozio presso il quale è stato acquistato il prodotto.



Nolietotu iekārtu iznīcināšanas noteikumi lietotājiem Eiropas Savienības privātajās mājāsaimniecībās

Šāds simbols uz izstrādājuma vai uz tā iesaiņojuma norāda, ka šo izstrādājumu nedrīkst izmest kopā ar citiem sadzīves atkritumiem. Jūs atbildat par to, lai nolietotās iekārtas tiktu nodotas speciāli iekārtotos punktos, kas paredzēti izmantoto elektrisko un elektronisko iekārtu savākšanai otrreizējai pārstrādei. Atsevišķa nolietotu iekārtu savākšana un otrreizējā pārstrāde palīdzēs saglabāt dabas resursus un garantēs, ka šīs iekārtas tiks otrreizēji pārstrādātas tādā veidā, lai pasargātu vidi un cilvēku veselību. Lai uzzinātu, kur nolietotās iekārtas var izmest otrreizējai pārstrādei, jāvērsas savas dzīves vietas pašvaldībā, sadzīves atkritumu savākšanas dienestā vai veikalā, kurā izstrādājums tika nopirkts.



Vartotojų iš privačių namų ūkių įrangos atliekų šalinimas Europos Sąjungoje

Šis simbolis ant gaminio arba jo pakuotės rodo, kad šio gaminio šalinti kartu su kitomis namų ūkio atliekomis negalima. Šalintinas įrangos atliekas privalote pristatyti į specialią surinkimo vietą elektros ir elektroninės įrangos atliekoms perdirbti. Atskirai surenkamos ir perdirbamos šalintinos įrangos atliekos padės saugoti gamtinius išteklius ir užtikrinti, kad jos bus perdirbtos tokiu būdu, kuris nekenkia žmonių sveikatai ir aplinkai. Jeigu norite sužinoti daugiau apie tai, kur galima pristatyti perdirbtinas įrangos atliekas, kreipkitės į savo seniūniją, namų ūkio atliekų šalinimo tarnybą arba parduotuvę, kurioje įsigijote gaminį.



Verwijdering van afgedankte apparatuur door privé-gebruikers in de Europese Unie

Dit symbool op het product of de verpakking geeft aan dat dit product niet mag worden gedeponeerd bij het normale huishoudelijke afval. U bent zelf verantwoordelijk voor het inleveren van uw afgedankte apparatuur bij een inzamelingspunt voor het recyclen van oude elektrische en elektronische apparatuur. Door uw oude apparatuur apart aan te bieden en te recyclen, kunnen natuurlijke bronnen worden behouden en kan het materiaal worden hergebruikt op een manier waarmee de volksgezondheid en het milieu worden beschermd. Neem contact op met uw gemeente, het afvalinzamelingsbedrijf of de winkel waar u het product hebt gekocht voor meer informatie over inzamelingspunten waar u oude apparatuur kunt aanbieden voor recycling.



Pozbywanie się zużytego sprzętu przez użytkowników w prywatnych gospodarstwach domowych w Unii Europejskiej

Ten symbol na produkcie lub jego opakowaniu oznacza, że produktu nie wolno wyrzucać do zwykłych pojemników na śmieci. Obowiązkiem użytkownika jest przekazanie zużytego sprzętu do wyznaczonego punktu zbiórki w celu recyklingu odpadów powstałych ze sprzętu elektrycznego i elektronicznego. Osobna zbiórka oraz recykling zużytego sprzętu pomogą w ochronie zasobów naturalnych i zapewnią ponowne wprowadzenie go do obiegu w sposób chroniący zdrowie człowieka i środowisko. Aby uzyskać więcej informacji o tym, gdzie można przekazać zużyty sprzęt do recyklingu, należy się skontaktować z urzędem miasta, zakładem gospodarki odpadami lub sklepem, w którym zakupiono produkt.



Descarte de Lixo Elétrico na Comunidade Européia

Este símbolo encontrado no produto ou na embalagem indica que o produto não deve ser descartado no lixo doméstico comum. É responsabilidade do cliente descartar o material usado (lixo elétrico), encaminhando-o para um ponto de coleta para reciclagem. A coleta e a reciclagem seletivas desse tipo de lixo ajudarão a conservar as reservas naturais; sendo assim, a reciclagem será feita de uma forma segura, protegendo o ambiente e a saúde das pessoas. Para obter mais informações sobre locais que reciclam esse tipo de material, entre em contato com o escritório da HP em sua cidade, com o serviço de coleta de lixo ou com a loja em que o produto foi adquirido.



Likvidácia vyradených zariadení v domácnostiach v Európskej únii

Symbol na výrobku alebo jeho balení označuje, že daný výrobok sa nesmie likvidovať s domovým odpadom. Povinnosťou spotrebiteľa je odovzdať vyradené zariadenie v zbernom mieste, ktoré je určené na recykláciu vyradených elektrických a elektronických zariadení. Separovaný zber a recyklácia vyradených zariadení prispieva k ochrane prírodných zdrojov a zabezpečuje, že recyklácia sa vykonáva spôsobom chrániacim ľudské zdravie a životné prostredie. Informácie o zberných miestach na recykláciu vyradených zariadení vám poskytne miestne zastupiteľstvo, spoločnosť zabezpečujúca odvoz domového odpadu alebo obchod, v ktorom ste si výrobok zakúpili.



Odstranjevanje odslužene opreme uporabnikov v zasebnih gospodinjstvih v Evropski uniji

Ta znak na izdelku ali njegovi embalaži pomeni, da izdelka ne smete odvreči med gospodinjске odpadke. Nasprotno, odsluženo opremo morate predati na zbirališče, pooblaščeno za recikliranje odslužene električne in elektronske opreme. Ločeno zbiranje in recikliranje odslužene opreme prispeva k ohranjanju naravnih virov in zagotavlja recikliranje te opreme na zdravju in okolju neškodljiv način. Za podrobnejše informacije o tem, kam lahko odpeljete odsluženo opremo na recikliranje, se obrnite na pristojni organ, komunalno službo ali trgovino, kjer ste izdelek kupili.



Eliminación de residuos de equipos eléctricos y electrónicos por parte de usuarios particulares en la Unión Europea

Este símbolo en el producto o en su envase indica que no debe eliminarse junto con los desperdicios generales de la casa. Es responsabilidad del usuario eliminar los residuos de este tipo depositándolos en un "punto limpio" para el reciclado de residuos eléctricos y electrónicos. La recogida y el reciclado selectivos de los residuos de aparatos eléctricos en el momento de su eliminación contribuirá a conservar los recursos naturales y a garantizar el reciclado de estos residuos de forma que se proteja el medio ambiente y la salud. Para obtener más información sobre los puntos de recogida de residuos eléctricos y electrónicos para reciclado, póngase en contacto con su ayuntamiento, con el servicio de eliminación de residuos domésticos o con el establecimiento en el que adquirió el producto.



Bortskaffande av avfallsprodukter från användare i privathushåll inom Europeiska Unionen

Om den här symbolen visas på produkten eller förpackningen betyder det att produkten inte får slängas på samma ställe som hushållssopor. I stället är det ditt ansvar att bortskaffa avfallet genom att överlämna det till ett uppsamlingsställe avsett för återvinning av avfall från elektriska och elektroniska produkter. Separat insamling och återvinning av avfallet hjälper till att spara på våra naturresurser och gör att avfallet återvinns på ett sätt som skyddar människors hälsa och miljön. Kontakta ditt lokala kommunkontor, din närmsta återvinningsstation för hushållsavfall eller affären där du köpte produkten för att få mer information om var du kan lämna ditt avfall för återvinning.

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Part Number 5998-3237
March 2012